

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently Amended) A computer-readable storage device storing a [[A]]
computer program product, tangibly embodied in an information carrier, for deriving a
metadata API from a metamodel in order to develop developing an application, the
computer program product being operable to cause data processing apparatus to:
receive the metamodel a first model in a first language, the metamodel
describing a diagram of classes that define the development objects, the first model
defining the development objects representing building blocks for developing the
application, relationships among the development objects, and constraints for
developing the application;
convert the metamodel first model to a model description that describes the
metamodel second model in a second language according to an interchange format;
wherein the second model is an XML model;
generate a set of intermediate objects to represent the classes of the metamodel
by parsing the model description second model using an XML parser; and
generate [[an]] the API using the set of intermediate objects as inputs, wherein
the API is for accessing the development objects to develop the application comprises
an interface layer, a proxy layer, a state layer, XML marshalling code, and an XML
schema to enforce the constraints.

2. (Cancelled).

3. (Currently Amended) The computer-readable storage device ~~program-~~
~~product~~ of claim 1, wherein the second language comprises XML.

4. (Currently Amended) The computer-readable storage device ~~program-~~
~~product~~ of claim 1, wherein the first language comprises UML.

5. (Cancelled).

6. (Currently Amended) The computer-readable storage device ~~program-~~
~~product~~ of claim 1, wherein the first language comprises a customizable extension.

7. (Currently Amended) The computer-readable storage device ~~program-~~
~~product~~ of claim 6, wherein the customizable extension is used to implement an
additional feature of the API.

8. (Currently Amended) The computer-readable storage device ~~program-~~
~~product~~ of claim 7, wherein the additional feature comprises an indication of a file
border.

9. (Currently Amended) The computer-readable storage device ~~program-~~
~~product~~ of claim 1, wherein the API comprises a copy and paste operation.

10. (Currently Amended) A computer-readable storage device storing a ~~[[A]]~~ computer program product, ~~tangibly embodied in an information carrier,~~ for deriving a metadata API from a metamodel in order to develop ~~developing~~ an application, the computer program product being operable to cause data processing apparatus to:

receive the metamodel ~~a first model~~ in a first language, the metamodel ~~describing a diagram of classes that define the development objects,~~ ~~first model-~~ ~~defining~~ the development objects representing building blocks for developing the application, relationships ~~among the development objects,~~ and constraints for ~~developing the application,~~ wherein the first language comprises unified modeling language;

convert the metamodel ~~first model~~ to a model description that describes the ~~metamodel~~ ~~second model~~ in a second language according to an interchange format, wherein ~~the second model is an XML model and~~ the second language comprises XML;

generate a set of intermediate objects to represent the classes of the metamodel by parsing the model description ~~second model using an XML parser;~~ and

generate the API with ~~a proxy layer, a state layer, XML marshalling code, and an~~ XML schema using the set of intermediate objects as inputs such that the XML schema enforces the relationships and the constraints ~~defined in the first model and~~ enables implementing the development objects.

11. (Cancelled).

12. (Currently Amended) The computer-readable storage device ~~program-~~
~~product~~ of claim 11, wherein the second language comprises XML.
13. (Cancelled).
14. (Currently Amended) The computer-readable storage device ~~program-~~
~~product~~ of claim 10, wherein the set of intermediate objects comprises Java objects.
15. (Currently Amended) The computer-readable storage device ~~program-~~
~~product~~ of claim 10, wherein the XML schema includes a tree based on aggregation
relationships in the metamodel ~~first model~~.
16. (Currently Amended) The computer-readable storage device ~~program-~~
~~product~~ of claim 10, wherein the XML schema includes a reference based on an
association relationship in the metamodel ~~first model~~.
17. (Currently Amended) The computer-readable storage device ~~program-~~
~~product~~ of claim 10, wherein the XML schema includes a complex type extension based
on an inheritance relationship in the metamodel ~~first model~~.
18. (Currently Amended) A computer-readable storage device storing a ~~[[A]]~~
computer program product, ~~tangibly embodied in an information carrier, for~~ deriving

~~metadata API from a metamodel in order to develop~~ developing an application, the computer program product being operable to cause data processing apparatus to:

receive the metamodel describing a diagram of classes that define the development objects, the a data model defining development objects representing building blocks for developing the application, ~~relationships among the development objects, and constraints for developing the application;~~

generate an XMI model that is a representation ~~represnation~~ of the metamodel according to an interchange format ~~data model;~~

generate a set of intermediate objects to represent the classes of the metamodel by parsing the XMI model using an XML parser;

derive ~~[[an]]~~ the API based on the set of intermediate objects, ~~wherein the API comprises an interface layer, a proxy layer, a state layer, XML marshalling code, and an XML schema to enforce the constraints; and~~

use the API to perform operations on the development objects to develop the application.

19. (Cancelled).

20. (Currently Amended) The computer-readable storage device ~~program~~ product of claim 18, wherein the operations comprise:

creating a new development object as a transient object without an existing corresponding file; and

modifying the transient object until the transient object is committed to a persistent file.

21. (Currently Amended) The computer-readable storage device ~~program-product~~ of claim 20, further comprising instructions to destroy the transient object if a delete command is requested before the transient object is committed to a persistent file.

22. (Currently Amended) The computer-readable storage device ~~program-product~~ of claim 20, further comprising instructions to mark the persistent file as deleted if a delete command is requested after the transient object is committed to a persistent file.

23. (Currently Amended) The computer program product of claim 1, wherein the metamodel ~~first model~~ is stored on one of a storage module, a server, and a portable storage device.

24. (Currently Amended) The computer program product of claim 18, wherein the metamodel ~~first model~~ is stored on one of a storage module, a server, and a portable storage device.

25. (Currently Amended) The computer-readable storage device ~~program-product~~ of claim 1, wherein the set of intermediate objects comprises Java objects.

26. (Currently Amended) The computer-readable storage device program-product of claim 18, wherein the set of intermediate objects comprises Java objects.